ROUTING AND TRANSMITTAL SLIP

Date: 11/31

TO: (Name, office symbol, room number, building, Agency/Post)		Initials	Date
1. D/ODP 2300 Hgs	28 NOV 1983	SKFD	11/22/83
2. EXO		W.G	11/30/83
3. DD & F/E		QS	1 DC 83
4. I Talked to him and gave material			
5. to OSO & EDI/OOI.			GS

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

REMARKS

This chap obviously thinks he's talking to the D/OOP. This product is probably not of interest, but I send it along for what it may be worth. It's been here for some time — I found it when I got back from TDY.

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post) D/16	Room No.—Bldg.
	Phone No.

5041-102

OPTIONAL FORM 41 (Rev. 7-76)
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☆ GPO : 1981 O - 361-529 (148)

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McLean, Virginia 22101
703 / 556-9000
(H) 301 / 622-2217

Onyx

1487 Chain Bridge Road, #100
McLean, Virginia 22101
703 / 556-9000

Bill Wasson
Marketing Director

Hi Bruce —

The enclosed paper describes a product I am now marketing, and your selection
of it for your systems will be especially appreciated.

ONYX is doing some very exciting work relative to improving the throughput per-
formance of data processing systems. The technology essentially uses MOS memory
as a basic peripheral storage media. By using the semiconductor storage in this
manner we eliminate all disk access and latency times, thus squeezing wall-clock
time down to the equivalent of CPU cycle time.

We use the same device for each manufacturers equipment but must engineer a
different interface board for each equipment manufacturer. This peripheral is
now operational on the Unibus which is common on the PDP-11 and VAX machines,
as well as on the DMA bus which is common to all Perkin-Elmer 32-bit word machines.

You will find enclosed some additional information on our M60 Memory Peripheral.
The ONYX M60 MOS Semiconductor Storage Peripheral is a problem solving device.
It can literally eliminate an I/O bound condition in data processing systems and
convert the system to a CPU bound state, the most advantageous position that one
can have in a data processing center. When a CPU is CPU bound the user is getting
maximum return on investment.

The M60 uses fast semiconductor storage as a working area to store:

- COBOL and FORTRAN Compilation work files

- CAL work files

- SORT/MERGE work files

- teleprocessing and data base management systems
  software and other DBMS overhead

- high activity data sets

- communication messages for forwarding

By storing the above data on the ONYX, Inc. MOS Semiconductor Storage media we
are able to reduce the access time by a factor of approximately 38,000 to 1,
thus allowing the CPU to be constantly executing application and systems software
instructions. By drastically reducing the period of time that the CPU is held
in a "wait state" due to input/output activity to disk drives, an improvement
of at least 100% in throughput should be realized.

Page Two

Some actual timing data taken from production runs by customer personnel reveal that:

1. Sort timings are improved by as much as 500%.

2. COBOL Compilation timings improve by a factor of 400%.

3. CAL Assembly timings improve by a factor of 400%.

4. On-line transaction processing with 30 terminal users experiencing a 90 second response time with disk, was changed to serve 49 users while simultaneously lowering the response time to less than 12 seconds.

The M60 provides the user with an alternate and more cost effective way of expanding the capability of a data processing system beyond the approach that has been traditionally offered by the manufacturer, i.e., upgrade to the next highest level mainframe. This mainframe approach normally yields only a 7 to 13% improvement because it does not directly attack the record retrieval disk storage problem - it merely adds more computer capability in the bigger mainframe when in fact the user was not effectively using the processing cycles of the current processor.

This 4MB peripheral is delivered for $34,000, with a dedicated power supply and all required cables and terminators at no additional costs. Additional memory is available at $7500 per 2MB board. Battery power backup is available for $2500. A software driver costing $1000 will be sysgened into OS, and the installation cost is $500.

As always, I wish you the best in your career, and I hope this information will be of sufficient interest that we can pursue the matter further and visit our facilities in McLean for demonstrations immediately.

Sincerely,

ONYX, INCORPORATED

Bill

Bill Wasson
Marketing Director

Enclosure

DEC AND PERKIN-ELMER USERS:

DOUBLE YOUR THRUPUT WITH AN ONYX M60 MOS MEMORY PERIPHERAL

RESULTS PROVEN IN ACTUAL DP ENVIRONMENTS

On-line Transaction Response Time (30 Terminals)

15.0 SECONDS WITH DISK

4.8 SECONDS WITH ONYX M60

Sort Time

7 MINUTES 4 SECONDS WITH DISK

1 MINUTE 36 SECONDS WITH ONYX M60

COBOL Compile Time

1 HOUR 35 MINUTES WITH DISK

24 MINUTES WITH ONYX M60

Is your system disk I/O bound? Is your CPU wait light on?

BUYING A LARGER CPU IS NOT THE ANSWER

M60 System Features include:

- Interconnect to host computer at backplane
- Expandable to maximum storage capacity of 400 megabytes
- High speed backplane transfer rate
- MOS memory access time
- Error checking and correction

Options:

- Battery backup/Uninterruptable Power System
- Remote diagnostic unit
- Tape or disk data backup

The ONYX M60 MOS Memory Peripheral Is the answer. The M60 is a problem solving device designed to eliminate the Disk I/O bottleneck.

ONYX has brought the entire array of semiconductor technology to bear on developing a new type of storage peripheral. For the first time, price/performance of semiconductor technology allows the use of semiconductor storage to be used as a peripheral storage media. The use of this device for permanent storage of programs, systems software and data eliminates many hours of disk access time each day bringing compute time into close agreement with wall clock time. The M60 is the most cost effective method of improving thruput.

(over)

With the advent of plug compatible peripherals in the early 1970's, the cost of peripheral devices was substantially reduced. As a means of countering this loss of revenue, computer manufacturers, in general, strengthened their control of thruput of each given computer model by sharply limiting the maximum size of main memory.

Knowing this to be the case, representatives of computer manufacturers have a standard answer for lack of thruput — "Buy our next largest model".

While this course of action is costly, for a number of years it did provide some relief to the thruput problem. However, with steadily increasing transaction and file volume as well as similar increases in complexity of system software and application programs, the disk file access problem has become so severe that adding several million bytes of main memory and several selector channels yields only a marginal increase in thruput. There are specific instances of users investing from $500,000 to $700,000 per CPU to achieve a 25% thruput increase that will, hopefully, satisfy their requirements for three years.

ONYX has been working on solving the thruput of disk I/O bound systems since 1980. This experience led to the realization that adding to main memory, acquiring a larger CPU and/or improving disk controllers only mitigate the problem; they do not solve the problem. ONYX has solved the problem. Our definition of solving the problem is fully loading the CPU. When your wait light is out and you still need more thruput, then you really do need a higher capacity CPU.

The M60 is the first of a new type of peripheral device, a "memory" peripheral. It is not add-in or add-on main memory, a "solid state" drum or a "solid state" disk. The M60's storage capacity, access speed, address range, and intelligence provide a completely different and unique approach to storing and retrieving data. The M60 is achieving results that represent a *quantum jump* in production.

With a capacity range of four to four hundred megabytes of semiconductor memory, the M60 can be configured to achieve the improvement in thruput needed to meet your requirements. If a 25% improvement solves your immediate problem, you can acquire an M60 to accomplish that objective and add to the system as your requirements increase.

Your existing CPU, software, application programs and operating procedures remain the same. Installation of an M60 is similar to adding any other peripheral device to your system.

The M60 is a completely solid state device, and as such, has an MTBF far superior to electro-mechanical devices. To further improve reliability, the M60 is equipped with a separate maintenance diagnostic system and self-healing memory units. The built-in maintenance diagnostic system constantly monitors system performance and communicates with maintenance personnel either locally or remotely. If desired, ONYX will provide maintenance service.

The ONYX M60 Memory Peripheral is clearly a better means of improving thruput than acquiring a larger CPU.

If you are experiencing the dichotomy of a lack of thruput capacity and your CPU wait light is on, why not find out what the M60 can do for you? Contact ONYX for assistance in analysis of your disk file activity and configuring an M60 to solve your problem — NOW!

Orders are being booked for 90 to 150 day delivery.

Developed by
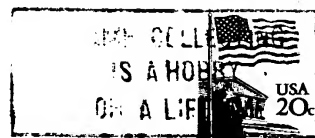APPLIED MEMORY SCIENCES Limited (AMSIL)
a division of

Onyx

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McLean, Virginia 22101

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ON A LIFE
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WASHINGTON DC ~~20505~~